# Somatic symptoms after sexual behavior with fear of four sexually transmitted diseases: A proposal of novel disorder

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#### **ABSTRACT**

Somatic symptom disorder (SSD) often leads to frequent doctor visit not only to psychiatrists but also to various kinds of physicians. We encountered four cases of SSD, particularly associated with sexual intercourse and fear of sexually transmitted diseases (STDs). To best of our knowledge, there is no independent clinical entity assigned to this phenomenon. Here, we propose a variation of SSD called four STD as an independent clinical entity since the presentation of this disorder is very distinctive, and lack of awareness of it may lead to unnecessary laboratory workup and antimicrobial prescription as well as augmented anxiety of the patients with potential "doctor shopping." Further studies are needed to elucidate the pathophysiology, diagnosis, and treatment of this disorder.

Keywords: Somatic symptoms disorder, somatization, sexually transmitted diseases

#### Introduction

Somatic symptom disorder (SSD) is defined as "one or more somatic symptoms that are distressing or result in significant disruption of daily life, with excessive thoughts, feelings, or behaviors related to these symptoms." We encountered cases of such disorders, particularly associated with sexual behaviors and fear of specific sexually transmitted diseases (STDs). These patients have distinctive medical history and lack of awareness of this disorder often leads to repeated and unnecessary laboratory tests and antibiotic prescription, which result in even augmented patients' anxiety and unwanted adverse effects. Therefore, here, we propose this to be entitled a distinctive clinical entity under a category of SSD, i.e., a novel disorder; we named as somatic symptoms after sexual behavior with fear of four STD (4STD). Awareness of this syndrome will aid in helping in understanding

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patients' anxiety, avoiding unnecessary and excessive laboratory workup, prescriptions of antimicrobials, and subsequent "doctor shopping."

# **Case Reports**

## Case 1

A male patient in his 40-year-old visited our infectious diseases (ID) outpatient clinic with a chief complaint of multiple body aches, lasting for 2 months. He visited a nearby clinic and was prescribed antibiotic of unknown name to no avail. He disclosed that he had unprotected sex with commercial sex worker (CSW, female) 1 month before the onset of symptoms. He never had such an experience with CSW before this episode. Shortly, after this sex, he started to sweat a lot and underwent HIV test repeatedly at a local Public Health Department. Despite negative HIV test results, he still feared the possibility of HIV infection and visited our clinic.

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On physical examination, his vital signs were all normal. There were small lymph nodes palpable on the right posterior neck, but it did not appear pathological. Rest of his physical examination was unremarkable. Laboratory examinations including tests for HIV, hepatitis B, hepatitis C, and syphilis were all negative. He was prescribed amitriptyline and lorazepam PRN, followed by Chinese herbal medicine extracts (Saiko-ka-ryukotsu-borei-to followed by Choto-san). His symptoms improved but still persisted. However, he felt somewhat safe by visiting us and continued to visit our clinic on the regular basis.

#### Case 2

A male patient in his 30-year-old visited our ID clinic with a chief complaint of "sputum stuck in his throat" for 2 years. He had been an expatriate in a Middle East country for 4 years. During the stay, he underwent unprotected cunnilingus and penile-vaginal sex with several CSWs (female) for three times. He also disclosed that he used to have sex with CSWs in Japan before staying in the Middle East. Since the last intercourse while in the Middle East, he developed a sore throat and believed that he had acquired STD. He visited a hospital in the Middle East was provided antimicrobial therapy with transient relief of his symptoms, but these with general fatigue relapsed soon. After returning to Japan, he also visited an otolaryngologist and was given some medications without help, and he finally decided to visit our ID clinic.

Physical examination, as well as routine blood tests including HIV, hepatitis B, hepatitis C, and syphilis, was all normal. Throat culture only revealed usual bacterial flora. He was treated with a Chinese herbal medicine (Hange-koboku-to) with the reassurance that no STD is likely. Symptoms improved over several weeks.

#### Case 3

A male patient in his 40-year-old presented to our ID clinic with discomfort in throat, low-grade fever, and cough. Three days before the visit, he got acquainted with a diva male and had unprotected sex with him (insertive). This was first ever sex with men ever he had experienced. He was later notified that the man who he had sex with had been infected with HIV on antiretroviral therapy (ART), with good viral suppression.

The patient had history of involuntary dyskinesia and anxiety disorder, and an episode of bowel perforation and had been seen by physicians at the Department of Neurology, Psychiatry, and Gastrointestinal Surgery at our hospital.

On physical examination, he was anxious but did not have any abnormalities otherwise. Routine laboratory workup, including workup for STDs, was all negative.

He was offered antiretroviral medications as postexposure prophylaxis (PEP) as well as hepatitis B vaccines. His symptoms persisted with severe anxiety and had frequent unscheduled appearance to our clinic. After ruling out STDs and providing PEP/vaccines, we referred him to his psychiatrist, and he continued to receive treatment there.

#### Case 4

A male patient in his 20-year-old from China visited our ID clinic, with a chief complaint of penile discomfort developed shortly after having unprotected sex with CSW (female) in Japan. After seeing a dermatologist with assurance that there was no skin disorder identified, he decided to visit our ID clinic. He stated that he has both oral and penile discomfort, and he believed that there are abnormal mucous lesions on both. His physical examination was entirely normal, and no abnormality was identified on his skin and mucous membrane, unlike he claimed. Routine blood tests, including HIV, hepatitis B, hepatitis C, and syphilis as well as urine PCR for *Chlamydia trachomatis* and *Neisseria gonorrhoeae* were all normal. He was treated with Chinese herbal medicine extract (Hange-koboku-to) with significant improvement of, but not eradication of, symptoms.

We obtained written informed consents from all patients for publication of the current report.

#### Discussion

We here propose a novel disease entity named somatic symptoms after sexual behavior with fear of 4 STDs. We postulate this disorder is a variation of somatic symptoms disorder (fifth edition of the Diagnostic and Statistical Manual of Mental Disorders, or somatoform disorders in International Classifications of Diseases, F-45),<sup>[1]</sup> and define this as:

- 1. One or more somatic symptoms that are distressing or result in significant disruption of daily life, with excessive thoughts, feelings, or behaviors related to these symptoms
- 2. Symptoms occur after voluntary sexual intercourse and started to fear STDs afterward
- 3. It is NOT associated with sexual abuse or forced sexual relationship, such as rape
- 4. Organic disorders including STDs are excluded from the study.

Other characteristics of 4 STD, but not pathognomonic of, include (1) lack of the previous experience of sexual intercourse with CSWs (exception, case 2), (2) lack of underlying psychiatric illness (case 3), (3) pain and discomfort are usually felt at the site with sexual body contacts, such as penis and throat, but there are no lesions objectively observed by health-care professionals, and (4) male appears to be more susceptible than women to this disorder.

The last characteristic might be related to more opportunity to contact with CSW among men rather than women, but it can be postulated that men are genuinely more susceptible to 4 STD than female.<sup>[2]</sup>

One can argue that 4 STD can be included in illness anxiety disorder (including formerly termed hypochondriasis).<sup>[1]</sup> However, 4 STD is associated with protracted somatic symptoms, whereas illness anxiety disorder is defined as one not to have these symptoms.<sup>[3]</sup> In addition, the management of 4 STD is

different from Illness Anxiety Disorder about other diseases, such as malignancies or amyotrophic lateral sclerosis (*vide infra*). Therefore, we consider 4 STD should not be included in the category of illness anxiety disorder.

Likewise, 4 STD could be confused with posttraumatic stress disorder (PTSD) and acute stress disorder (ASD).<sup>[1]</sup> However, since sexual activity on 4 STD is defined as completely voluntary, excluding sexual abuse and traumatic, forced sexual intercourses such as rape, it should not be included in PTSD/ASD.<sup>[4,5]</sup>

One might argue why should we distinguish between 4 STD and other forms of SSDs. However, we rebut the argument because 4 STD has quite distinctive medical history, and lack of awareness of this entity may lead to repeated and unnecessary laboratory tests and antibiotic prescription. In addition, awareness of this disorder will enable physicians to reassure that the patient does not have STDs, with appropriate sexual education to avoid sexual behavior with high risk.

Diagnosis of 4 STD can be made relatively easily if physicians attentively listen to patients, in regard to medical, social, and sexual history as well as his/her main concerns carefully, and if there is lack of objective lesions on physical examination, and if routine workup for known STDs were all negative. [6]

Even if SSD is included within an entity of psychiatric disorders, the patients frequently visit various other clinicians, as in our cases, because symptoms are all somatic in nature and it appears physiological diseases. In addition, patients usually have fear of and desire to test STDs.

Those physicians who are likely to encounter STDs, as well as medically unexplained symptoms, [7] such as primary care physicians, family physicians, emergency care doctors, ID specialists, urologists, and gynecologists, all should be familiar with our proposed entity called 4 STD since they are most likely to visit these physicians, rather than psychiatrists, and lack of awareness of this disease entity may lead to unnecessary laboratory tests and antimicrobial treatments, augmented anxiety among patients, and subsequent "doctor shopping."

The previous study revealed that patients with psychiatric illness might present to ID clinic, with illness including malingering, obsessive-compulsive disorder, phobias, veneroneuroses, somatization disorders, and delusional infection. [8] Most likely, patients with 4 STD used to have visited ID clinic for fear of STDs, but were not recognized as such.

Appropriate treatment for 4 STD remains unknown. Reassurance that the patient indeed does not have STD can be helpful, but these patients may resist this kind of reassurance. Appropriate

sexual education to avoid sexual behavior with high risk is necessary. We tried antidepressant, benzodiazepines, and some Chinese herbal medications with some success. We also tried to avoid the use of antimicrobial agents, which are least likely to beneficial. Treatment modalities such used for hypochondriasis such as cognitive therapy<sup>[9]</sup> or Morita therapy<sup>[10]</sup> might be useful. Further clinical trials with concrete diagnostic criteria will elucidate ideal treatment option of this disorder.

#### Conclusion

We identified a distinctive clinical entity characterized by somatic symptoms after sexual intercourse. Further studies will be needed to understand pathophysiology, epidemiology, strict diagnostic criteria, and treatment options.

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#### **Conflicts of interest**

There are no conflicts of interest.

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